

Better Gate Latches and Stretch Posts

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Ranchers and farmers constantly face fencing needs both on construction and on use of the fence after construction. Two helpful items that are not usual are discussed. Both of these ideas have allowed much added convenience and time saving in constructing fences and using wire gates.

Setting Steel Corner and Stretch Posts without Postholes or Concrete

When we construct new fences we like those fences to stay a lifetime—barring some disaster. The life of a fence depends largely on the corner, stretch, and gateposts. With that thought in mind, we prefer to use 4- to 18-inch diameter steel pipe or tubing for longevity, aesthetics, and strength of corner, stretch, and gate posts. In "oil country", used or rejected materials can usually be readily obtained. Similar materials may be available in other areas.

Posts made of steel generally have been set in concrete in holes about 3½ feet deep and 12 to 18 inches in diameter. Therein comes the rub—concrete is expensive, troublesome to arrange for, and it causes backaches and cracked hands.

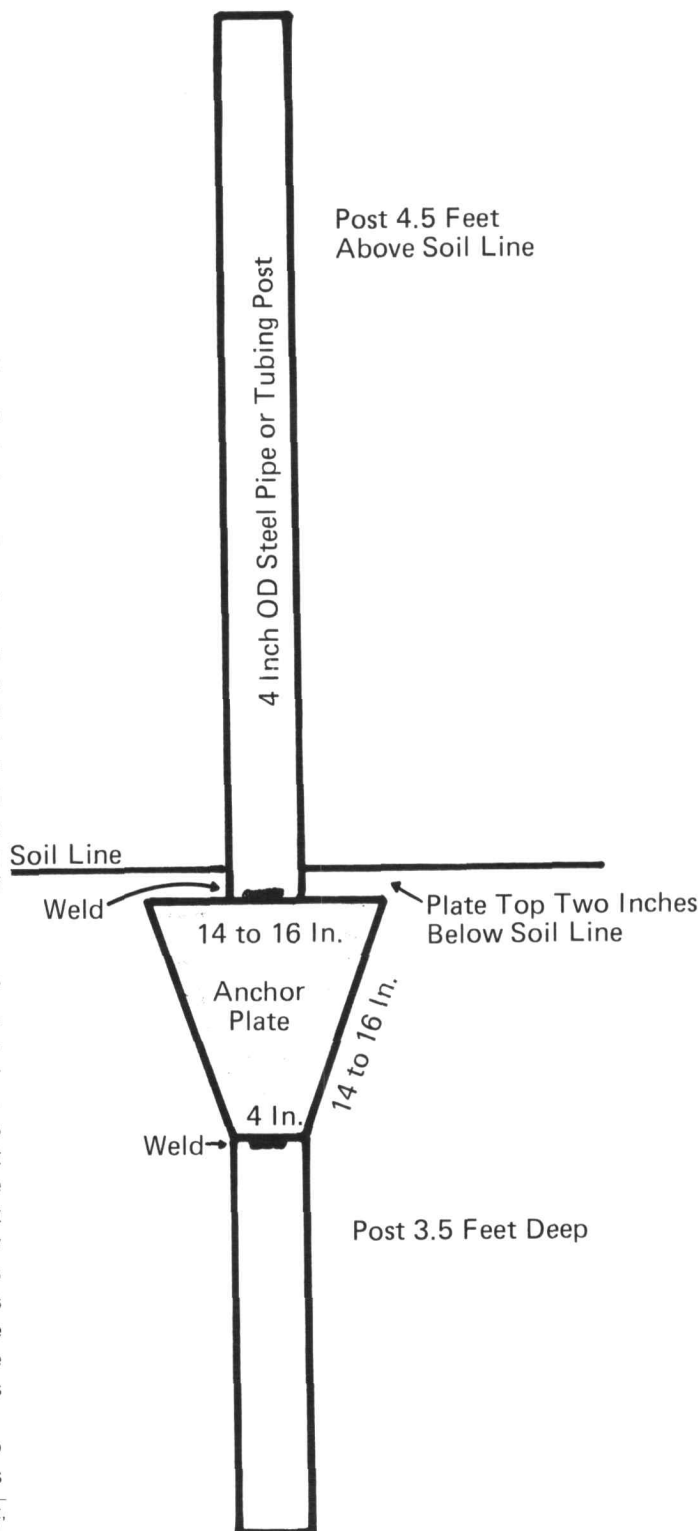
We considered various avenue to control concrete costs and reduce the trouble and yet maintain a high quality fence design using steel posts. We decided on an expansion of the anchor plate system on a standard "T" steel post. The anchor plate was made much larger and of much heavier material for this use. Keep in mind, the purpose of the plate is to add much resistance to the post in the direction of pull of the wire fence and to do this without digging postholes or using concrete. The technique can be used on a wide variety of steel posts sizes and types and on any kind of fence.

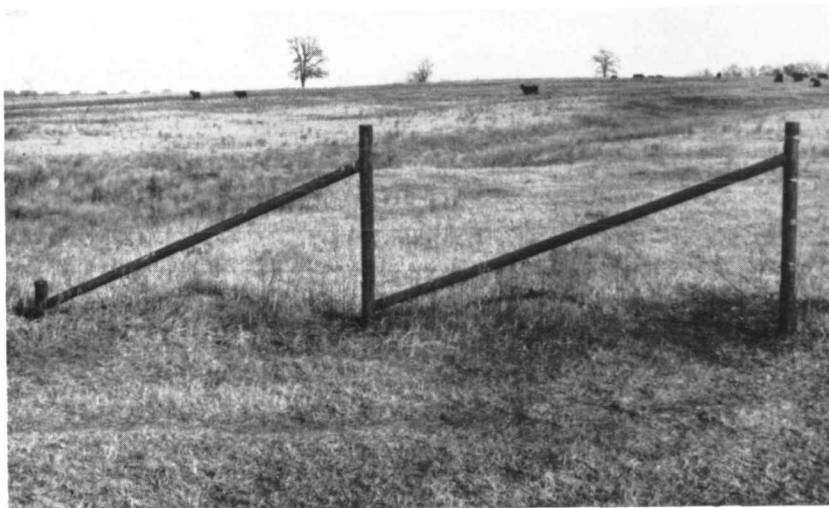
Post Construction

The anchor plate is basically a triangle of plate steel made of 1/4-inch thick stock. We have used some 3/8-inch stock, but find the 1/4 inch thickness satisfactory for our fences. The 3/8-inch thick steel would certainly be much more substantial, but its cost is 50% greater than the 1/4-inch stock. The plate is 14 to 16 inches wide at the top and 14 to 16 inches tall. This makes a plate of about 1 to 1.1 square feet in size. It is tapered top to bottom to the width of the post at the bottom. The bottom width is the same as the steel post diameter, which is usually 4 inches. The plate is securely welded to the steel post in a position so that when the plate is driven into the soil, the top of the plate will be about 2 inches below the soil line. This keeps the plate from being a surface obstruction. In our case we drive an eight-foot post into the soil 3.5 feet and leave 4.5 feet above the soil line. This works well for a 4- or 5-wire fence.

We always cap these posts with steel plates or concrete to prevent moisture from collecting inside the posts and thus

Diagram of the large anchor plate system.





An excellent 3-steel post stretch.

Driving the large anchor plate post.

shorten the life of the post by rusting inside to outside.

Post Driving.

These posts with the large anchor plate must be driven into the ground with a powered driver. They do drive surprisingly easy, but moist soil helps. The plate should be front side to the direction facing the wire pull. The 4- to 8-inch posts must be driven straight because little or no straightening can be done after they are driven.

The post driver operator should always wear ear protectors when driving these posts because the noise of the driver hitting the posts is extremely abusive to ears. These protectors are readily available from sporting goods stores.

Soil Type

We have used these posts in loam, silt loam, and clay soils with good success to date. The posts have been used for over a year for 4- and 5-wire barbed wire fences. We have had one of the wettest periods ever and the posts held excellently in the supersaturated soils. There has not been any detectable post movement. We have not used the technique in sandy soils, but it should perform well. In sandy soils, it might be necessary to enlarge the plate somewhat and use a thicker sheet of metal such as 3/8 inch stock. Rocky soils will cause problems in driving the posts with or without the large plates.

Corner and Stretch Post Design

Experience has taught us to be real picky about our corner, stretch, and gatepost design. We now always use a 3-post system to avoid "uprooting". A 3-post system is crucial. There are several other good 3-post systems, but this one is excellent for us, it is convenient to weld in place, and it requires less material than some others. Remember, with this 3-post setup, we have 3 anchor plates working to hold the fence. This totals to over 3 square feet of anchor plates per setup. We have never had one of these systems "uprooted" after many years of use, but during early use the 3-post setup was in concrete.

Advantages

There are many advantages of this anchor plate technique. The posts seem to have equal or more resistance and therefore less "give" than posts set in concrete. Other advantages include: no postholes, no concrete arrangements or mixing, less time and labor requirements, and lower costs compared to using postholes and concrete. For a 12-inch posthole, which was our *minimum*, present concrete cost is about \$5 per hole. This is for the cheapest, low mileage, local source of premixed concrete. Concrete would cost more with extended mileage. By using the anchor plate technique, our cost is \$2.25 per plate by using used steel for the plates. A good country scrounger could even cheapen that cost, maybe even down to zero. On large corner and gateposts, we used to dig an 18-inch hole. Concrete cost for that is about \$12. Again, the anchor plate technique costs only \$2.25 per hole. Of course we have to have a power driver and portable welder, but those machines are available on many ranches. On the basis of 100 posts, we save \$275 to \$975, depending on the amount of concrete required.

Time saved and convenience are very, very great, and even if the costs were the same, we would presently prefer the anchor plate technique.

An Excellent Latch for Wire Gates

Almost everyone who has had the experience of opening and closing barbed wire gates has been thoroughly frustrated with the same from time to time. Latches, or the lack of them, are a great source of disgust with these gates.

Farmers and ranchers use almost any conceivable contraption for a gate latch. Years ago on a tour to the High Plains a homemade gate latch was seen that simplified the latching and unlatching of wire gates. That latch was simplified, made even easier to use, and adapted to our use over a period of years, but the functioning principle of the latch remains the same.

This is how we construct and use these latches for barbed wire gates. The latches can be constructed easily in any farm

and ranch shop equipped with arc and/or gas welders. However, if you like torn shirts, bloody hands and arms, gripy helpers, loose, ratty, tangled, baling wire latched gates, and the opportunity to frequently use various verbal expletives, don't read any further.

Function

The basic function of the latch is one of a long lever that operates a short lever. The long lever is the latch handle and the short lever is the gate latch tongue (post end) of the latch. The lever action of the latch is more like that of a chain boom than that of the "harness hame" type of gate latch and many other latches. This latch, therefore, latches and unlatches wire gates to a tight wire tension with ease. The latch will easily fasten barbed wire gates up to 20 to 25 feet long and it can be used from either side of the gate.

Construction

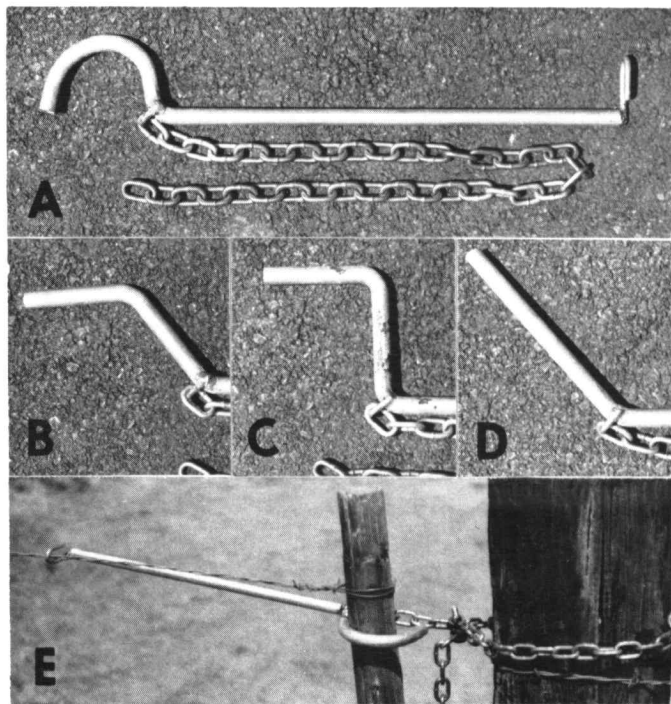
Five different styles of the basic latch can be made. The four better styles are shown in the fourth illustration, with the fifth being a straight rod with a chain attached as in the other four. All of these latches are used the same way. Ease of latching the gate is progressively somewhat better from latch D back to A, with latch A the best of the five. Conversely, construction is a bit more difficult progressively from latch D back to A. All latches are easy to construct and it is worth the slight extra effort to make a better latch. Some scrap materials from the farm and ranch can often be used, but avoid using flimsy straps, light weight chain, etc., in lieu of good materials.

The basic dimensions, angles of the rod bends, and other construction specifics are obvious in the fourth illustrations. The total materials needed for any of the latches are: latch rod, latch hook, attaching chain, and bolt-washer-nut assembly.

A steel rod (sucker rod) 24 inches long and 5/8 inch diameter, or larger, is excellent for the latch rod. The bend dimensions at the tongue end of the rod are dependent upon the gate post diameter. Latches shown are for gate posts averaging about 3 inches in diameter. The diameter of the latch tongue bend is about 1 inch larger than the diameter of the gate post. In general, the handle portion from the hook end to the chain attachment is about 18 inches long with the bent "post end" being 6 to 9 inches long. This is variable, depending on the latch style.

The latch hook is made of 1/4- to 3/8-inch diameter rod. This "U" shaped hook should be about 2 inches long and it must be welded securely on the end of the latch rod with the open end facing the chain side of the latch. The latch hook is hooked to the top wire of the gate to hold the latch in place and the gate tightly closed. Always try to use the top wire of the gate to avoid reaching between gate wires. Remove or trim barbs from the top wire in the area where the latch will be fastened to avoid injury when operating the latch. Snaps, special configuration hooks, or wire loops that slide over the top gate wire and latch handle can be used for fasteners but they are an unnecessary nuisance. We have never had a properly installed latch with a simple hook come unfastened.

The chain attaching the latch to the fence line post should



The favored gatelatch style (A) and three other good styles (B,C,D) and the gatelatch in use (E).

be at least 1/4- to 5/16-inch chain link. Cut the round end off an end chain link, spread the cut link so it will fit over the latch rod, and weld it securely at the proper point on the latch rod. Angle the uncut end of this link slightly toward the tongue end of the latch so it will be more correctly in line with the chain when the latch is in use. Lighter weight chains have been troublesome in not allowing secure welding and breakage during use. Chains 3 to 4 feet long will encircle most fenceline posts and leave extra chain for adjustment. Adjustment to obtain proper gate tension is easily accomplished by removing the chain bolt, adjusting the chain length, and replacing the bolt. Gates latched with this method can be kept relatively tight when closed to prevent the latch from being accidentally released.

Only two real problems have occurred with these latches. One was the tendency of light weight chain or other attachments to break, but that is not a problem with the 1/4- to 5/16-inch diameter chain link. The other is the gate post wear caused by the latch rubbing. One way this can be reduced or prevented is by using hardwood or pipe gate posts or by installing a metal sleeve over the gate post at the point where the latch rubs.

We do not know of a commercial source of similar latches. A padlock can be attached over the rod handle and gate wire to keep "honest" folks out.

Editor's Note: The authors are high on the results being obtained from the fencing and gate ideas herein described.

One might say this is a series on the subject. First, the "Golden Gate" poem by Ted Simpson; then, with this article; and third, "Cheaper Fencing," by Tom Bedell. These three pieces arrived in the mail during a 3 day period—destiny rides again!

Charter Members:

The name of **Sam Coleman** was inadvertently omitted from the list of Charter Members. Our apologies.